

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY



(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 20 SEP 2005

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Applicant's or agent's file reference PD53583PC		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/EP2004/005605		International filing date (day/month/year) 25.05.2004	Priority date (day/month/year) 06.06.2003	
International Patent Classification (IPC) or national classification and IPC H04R1/08				
Applicant SONY ERICSSON MOBILE COMMUNICATIONS AB ET AL				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 1 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 05.04.2005		Date of completion of this report 19.09.2005		
Name and mailing address of the international preliminary examining authority:		Authorized Officer		
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/005605

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-5
as originally filed

Claims, Numbers

1-7
filed with telefax on 05.04.2005

Drawings, Sheets

1/2-2/2
as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☒ the claims, Nos. 8-11
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing *(specify)*:
 - ☐ any table(s) related to sequence listing *(specify)*:
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing *(specify)*:
 - ☐ any table(s) related to sequence listing *(specify)*:

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

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Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following documents:
D1: US-A-5 442 713 (PATEL BAKULESH B ET AL) 15 August 1995 (1995-08-15)
D2: US-A-4 966 252 (DREVER LESLIE C) 30 October 1990 (1990-10-30)
D3: US-A-2 536 261 (CALDWELL JR STEPHEN A) 2 January 1951 (1951-01-02)
2. **Technical field:** The application relates to the reduction of wind-noise for microphone units.

The closest prior art document, **D1** describes a microphone unit for mobile equipment, comprising a microphone pick up (cf. item "22") located within a microphone pick up housing (housing with openings "50" and "52") forming a chamber (item "25"), whereby said housing is provided with sound passage openings (cf. openings "50" and "52") for receiving sound from a sound field external to said chamber, said sound passage openings being provided with at least one wind noise reduction element (cf. item "20" and column 2, lines 3-7).

The subject-matter of independent **claim 1** differs inter alia from **D1** in that the microphone unit of claim 1 is provided with

- three sound passage openings for receiving sound from a sound field external to said chamber;
- sound passage openings being provided with at least one wind noise reduction element each.

The apparatus of **claim 1** improves the resistant to wind noise and reduces the influence of the undesired air stream.

These features are neither known nor suggested by the documents **D1-D3** cited in the international search report.

In particular, **D2** describes a microphone unit for mobile equipment, comprising a microphone pick up (cf. item "16" in figure 3) located within a microphone pick up housing (item "12" in figure 2) forming a chamber (item "14" in figure 3), whereby said housing extending in a longitudinally direction is a cylinder having a shielding surface and a side surface (cf. figure 1) whereby said housing is provided with sound passage openings (cf. openings "34") for receiving sound from a sound field external to said chamber, said sound passage openings being provided with at least one wind noise reduction element (cf. items "36"-"46" in figure 4).

D3 states a microphone unit for mobile equipment, comprising a microphone pick up (cf. item "6" in figure 2) located within a microphone pick up housing (items "5" and "7") forming a chamber (item "14" in figure 3), whereby said housing extending in a longitudinally direction is a cylinder having a shielding surface and a side surface (cf. figure 2), whereby a cap or casing (item "7") is provided with sound passage openings (cf. openings "11") for receiving sound from a sound field external to said chamber, said sound passage openings being provided with at least one wind noise reduction element (cf. item "13").

Claim 1 therefore is novel and involves an inventive step in the sense of Article 33(2) and (3) PCT concerning novelty and inventive step.

3. **Claims 2-7 are dependent on claims 1**, and as such also meet the requirements of the PCT with respect to novelty and inventive step (Article 33(2) and (3) PCT).
4. The application as defined in **claims 1 to 7** is doubtless industrially applicable (Article 33(4) PCT).

5. **Re Item VII**

Certain defects in the international application

To meet the requirements of Rule 5.1(a)(ii) PCT, a discussion of the disclosure of document D1 should have been introduced in the description.

The applicant should have brought the description into conformity with the new

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claims filed.

Claims

1. Microphone unit (10) for mobile equipment, comprising a microphone pick up (2) located within a microphone pick up housing (3) forming a chamber (4), wherein said housing (3) extending in a longitudinally direction is a cylinder having a shielding surface (7) and a side surface (8), characterised in that said housing (3) is provided with three sound passage openings (5, 5', 5'') for receiving sound from a sound field external to said chamber (4), said sound passage openings (5, 5', 5'') being provided with at least one wind noise reduction element (6, 6', 6'') each.
2. Microphone unit (10) according to claim 1, wherein said wind noise reduction element (6) comprises a mesh having one layer.
3. Microphone unit (10) according to claim 1, wherein said wind noise reduction element comprises a mesh having a plurality of layers.
4. Microphone unit (10) according to any one of the previous claims, wherein the mesh is made of metal.
5. Microphone unit (10) according to any one of the previous claims, wherein the mesh is made of polymer material such as nylon.
6. Microphone unit (10) according to claim 5, wherein said sound passage opening is a hole extending in the longitudinally direction in said shielding surface (7).
7. Microphone unit (10) according to claim 5 or 6, wherein said sound passage opening is a hole in said side surface (8).